

Section 1. Registration Information

Source Identification

Facility Name:	Freeport-McMoRan Sierrita Inc.
Parent Company #1 Name:	Freeport-McMoRan Copper and Gold
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	5-year update (40 CFR 68.190(b)(1))
Description:	
Receipt Date:	23-Jun-2009
Postmark Date:	19-Jun-2009
Next Due Date:	19-Jun-2014
Completeness Check Date:	23-Jun-2009
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0009 8388
Other EPA Systems Facility ID:	.AZD982478216

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	173239385
Parent Company #1 DUNS:	187122973
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	6200 West Duval Mine Road
Street 2:	
City:	Green Valley
State:	ARIZONA
ZIP:	85614
ZIP4:	
County:	PIMA

Facility Latitude and Longitude

Latitude (decimal):	31.876444
Longitude (decimal):	-111.100472
Lat/Long Method:	GPS - Unspecified
Lat/Long Description:	Administrative Building
Horizontal Accuracy Measure:	1
Horizontal Reference Datum Name:	World Geodetic System of 1984
Source Map Scale Number:	

Owner or Operator

Operator Name:	Freeport-McMoRan Sierrita Inc.
Operator Phone:	(520) 648-8500

Mailing Address

Operator Street 1:	PO Box 527
Operator Street 2:	
Operator City:	Green Valley
Operator State:	ARIZONA
Operator ZIP:	85622
Operator ZIP4:	0527
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Chad Fretz
RMP Title of Person or Position:	Manager, Environment Land & Water
RMP E-mail Address:	

Emergency Contact

Emergency Contact Name:	Paul Boman
Emergency Contact Title:	Manager, Health & Safety
Emergency Contact Phone:	(520) 648-8515
Emergency Contact 24-Hour Phone:	(520) 648-8500
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	Paul_Boman@FMI.com

Other Points of Contact

Facility or Parent Company E-mail Address:	
Facility Public Contact Phone:	
Facility or Parent Company WWW Homepage Address:	

Local Emergency Planning Committee

LEPC:	Pima County LEPC
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Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	985
FTE Claimed as CBI:	

Covered By

OSHA PSM :	
EPCRA 302 :	Yes
CAA Title V:	Yes
Air Operating Permit ID:	M190699P2-99

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	19-Feb-2009
Last Safety Inspection Performed By an External Agency:	MSHA

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name:	Sherry Burt-Kested
Preparer Phone:	(520) 648-8866
Preparer Street 1:	6200 West Duval Mine Road
Preparer Street 2:	
Preparer City:	Green Valley
Preparer State:	ARIZONA
Preparer ZIP:	85614
Preparer ZIP4:	
Preparer Foreign State:	
Preparer Foreign Country:	
Preparer Foreign ZIP:	

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents:	See Section 6. Accident History below to determine if there were any accidents reported for this RMP.
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Process Chemicals

Process ID:	80207
Description:	Cl for FeCl3 Regeneration
Process Chemical ID:	106986
Program Level:	Program Level 2 process
Chemical Name:	Chlorine
CAS Number:	7782-50-5
Quantity (lbs):	360000
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	80207
Process NAICS ID:	82171
Program Level:	Program Level 2 process
NAICS Code:	212234
NAICS Description:	Copper Ore and Nickel Ore Mining

Section 2. Toxics: Worst Case

Toxic Worst ID: 52243

Percent Weight:

Physical State:

Model Used:

Release Duration (mins):

Wind Speed (m/sec):

Atmospheric Stability Class:

Topography:

Gas liquified by pressure

DEGADIS

10

1.5

F

Rural

Passive Mitigation Considered

Dikes:

Enclosures:

Berms:

Drains:

Sumps:

Other Type:

Section 3. Toxics: Alternative Release

Toxic Alter ID: 61621

Percent Weight:

Physical State:

Model Used:

Wind Speed (m/sec):

Atmospheric Stability Class:

Topography:

Gas liquified by pressure

DEGADIS

3.0

D

Rural

Passive Mitigation Considered

Dikes:

Enclosures:

Berms:

Drains:

Sumps:

Other Type:

Active Mitigation Considered

Sprinkler System:

Deluge System:

Water Curtain:

Neutralization:

Excess Flow Valve:

Yes

Flares:

Scrubbers:

Emergency Shutdown:

Yes

Other Type:

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

No records found.

Section 7. Program Level 3

Section 8. Program Level 2

Description:

Chlorine for FeCl₃ Regeneration

Program Level 2 Prevention Program Chemicals

Prevention Program Chemical ID:	30331
Chemical Name:	Chlorine
Flammable/Toxic:	Toxic
CAS Number:	7782-50-5

Prevention Program Level 2 ID:	28998
NAICS Code:	212234

Safety Information

Safety Review Date (The date of the most recent review or revision of the safety information):	25-Jun-2008
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Safety Compliance Regulations or Design Codes/Standards

NFPA 58 (or state law based on NFPA 58):	Yes
OSHA (29 CFR 1910.111):	
ASTM Standards:	Yes
ANSI Standards:	Yes
ASME Standards:	
None:	
Other Regulation, Design Code, or Standard:	DOT Standards
Comments:	

Hazard Review

Hazard Review Date (The date of completion of most recent review or update):	14-Feb-2008
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Change Completion Date (The expected or actual date of completion of all changes resulting from the hazard review):	30-Sep-2009
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Major Hazards Identified

Toxic Release:	Yes
Fire:	
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	
Corrosion:	
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	

Floods (Flood Plain):

Tornado:

Hurricanes:

Other Major Hazard Identified:

Process Controls in Use

Vents:

Relief Valves:

Check Valves: Yes

Scrubbers: Yes

Flares:

Manual Shutoffs: Yes

Automatic Shutoffs: Yes

Interlocks: Yes

Alarms and Procedures: Yes

Keyed Bypass:

Emergency Air Supply: Yes

Emergency Power:

Backup Pump:

Grounding Equipment:

Inhibitor Addition:

Rupture Disks:

Excess Flow Device: Yes

Quench System:

Purge System:

None:

Other Process Control in Use:

Mitigation Systems in Use

Sprinkler System:

Dikes:

Fire Walls:

Blast Walls:

Deluge System:

Water Curtain:

Enclosure:

Neutralization: Yes

None:

Other Mitigation System in Use:

Monitoring/Detection Systems in Use

Process Area Detectors:

Perimeter Monitors: Yes

None:

Other Monitoring/Detection System in Use: Video Monitoring System

Changes Since Last PHA or PHA Update

Reduction in Chemical Inventory:

Increase in Chemical Inventory:

Change Process Parameters:

Installation of Process Controls:

Installation of Process Detection Systems:

Installation of Perimeter Monitoring Systems:

Installation of Mitigation Systems:

None Recommended:

None:

Other Changes Since Last PHA or PHA Update:

Installation of automatic gates to prevent entry during evacuation

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):

06-Feb-2008

Training

Training Review Date (The date of the most recent review or revision of training programs):

06-Feb-2008

The Type of Training Provided

Classroom:

Yes

On the Job:

Yes

Other Training:

simulator

The Type of Competency Testing Used

Written Tests:

Oral Tests:

Demonstration:

Yes

Observation:

Yes

Other Type of Competency Testing Used:

Maintenance

Maintenance Review Date (The date of the most recent review or revision of maintenance procedures):

03-Apr-2009

Equipment Inspection Date (The date of the most recent equipment inspection or test):

17-Jun-2009

Equipment Most Recently Inspected or Tested:

Chlorinator Absorption Tank inspected every 7 days, Chlorinator Tanks inspected every 30 days and pressure tested annually, pumps and unloading stations inspected every 42 days

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):

01-Dec-2008

Audit Completion Date (The expected or actual date of completion of all changes resulting from the compliance audit):

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):

12-May-2005

Incident Investigation Changes Date (Expected or actual date of completion of all changes resulting from the investigation): 01-Aug-2005

Most Recent Change Date: (The date of the most recent change that triggered a review or revision of safety information): 09-May-2005

Confidential Business Information

CBI Claimed:

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):

Facility Plan (Does facility have its own written emergency response plan?): Yes

Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?): Yes

Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?): Yes

Healthcare (Does facility's ER plan include information on emergency health care?): Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan): 18-Jun-2009

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees): 18-Jun-2009

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated): Green Valley Fire Department

Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated): (520) 625-9400

Subject to

OSHA Regulations at 29 CFR 1910.38:

OSHA Regulations at 29 CFR 1910.120: Yes

Clean Water Regulations at 40 CFR 112: Yes

RCRA Regulations at CFR 264, 265, and 279.52: Yes

OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:

State EPCRA Rules or Laws: Yes

Other (Specify): MSHA 30 CFR Parts 1 to 199

Executive Summary

THE ACCIDENTIAL RELEASE PREVENTION AND EMERGENCY RESPONSE POLICIES AT YOUR FACILITY

Each employee of Freeport-McMoRan Sierrita Inc. (Sierrita) is provided with a General Safety and Environmental Handbook which includes the corporate and site-specific safety and health policies.

Sierrita has an excellent record of safety and lost-time accidents. In 1993, 1997, 1999, and 2001, Sierrita received the most prestigious award in the mining industry, the Sentinels of Safety Award. The Sentinels of Safety Award is cosponsored by the American Mining congress and the U.S. Department of Labor's Mine Safety and Health Administration (MSHA) for recognition of achieving one of the best records for number of employee work-hours without a lost-time injury or fatality.

YOUR FACILITY AND THE REGULATED SUBSTANCES HANDLED

Sierrita operates a copper and molybdenum mining and concentrating facility located approximately seven miles west of Green Valley, Arizona. Ore containing low-grade porphyry copper and molybdenum deposits is excavated, crushed, conveyed, milled and concentrated to produce copper and molybdenum concentrates. Copper concentrates are shipped to a smelter for further processing. The molybdenum sulfide concentrate contains a small percentage of copper, which cannot be effectively removed in the flotation process. The copper content in the molybdenum concentrates is lowered using a ferric chloride leach process. A hot ferric chloride solution is agitated in a series of mixing tanks with the molybdenum concentrate. The slurry exiting the tank is a high-grade molybdenum sulfide concentrate. The molybdenum sulfide concentrate is then roasted to yield molybdenum trioxide which is packaged for distribution. The copper leached from the process is recovered as cement copper and sent to a smelter for further processing with the copper concentrates.

The ferric chloride leach liquor is recycled and regenerated using chlorine and iron scrap. Two 90-ton railroad tank cars of chlorine are stored next to the two 7,000 gallon chlorination tanks. One 90-ton railroad tank car of chlorine is connected to a manifold that distributes chlorine to the two 7,000 gallon chlorination tanks while the other is on standby. Typically, three additional back-up chlorine railcars are stored near the chlorinator area. The maximum number of railcars anticipated on-site at any one time would be seven. Each chlorine railcar provides approximately a seven-day supply of chlorine for the chlorination process.

THE GENERAL ACCIDENTAL RELEASE PREVENTION PROGRAM AND CHEMICAL-SPECIFIC PREVENTION STEPS

Sierrita is regulated by the Mine Safety and Health Administration (MSHA). MSHA performs comprehensive inspections of the facility for compliance with the Federal Metal and Nonmetallic Mine Safety and Health Standards (30 CFR Parts 1-199). The role of MSHA is to enforce compliance as a means to eliminate fatal accidents, to reduce the frequency and severity of nonfatal accidents, to minimize health hazards, and to promote improved safety and health conditions in the Nation's mines. All Sierrita employees and contractors are required to receive MSHA new miner and annual refresher training including site-specific emergency evacuation procedures.

Several mitigation devices are located in the chlorination area to prevent a chlorine release from occurring. Six chlorine sensors are located around the perimeter of the chlorinator area for identifying the presence of chlorine. The sensors are capable of detecting chlorine in concentrations equal to or greater than 1 ppm. If a release is sensed, the latching relays are de-energized and the two valves from the railcar and the automatic addition valve close. The valves are set up to fail in a closed position in the event of a power or air supply loss. In addition, all chlorine railcars are equipped with check valves, which cut off the chlorine supply if the flow rate were to increase rapidly. Sierrita maintains a chlorine remote video monitoring system in the control room. The system allows a control room operator to monitor the loading and unloading of chlorine railcars. If an incident involving chlorine were to occur during the unloading process, the control room operator could quickly cease the chlorine supply from the control room.

The chlorination system is also equipped with an absorption system to prevent over-chlorination of the process, which may result in a chlorine release. The absorption system consists of a 265-gallon tank containing 25% caustic soda solution. Chlorine in excess of the process required amount is vented to the chlorination tank, where it is neutralized. The tank is emptied and recharged daily and a detailed inspection is conducted every 7 days by trained Molybdenum Operations personnel.

Sierrita has prepared written operating procedures, also known as ¿Tasks¿, in accordance with the Molybdenum Processing certified International Standards Organization (ISO) 9000 system. The procedures are written to provide clear instruction or steps for safely conducting activities associated with each covered process

Monthly inspections are performed for each of the storage tanks in the chlorination area and an annual pressure test is conducted

with water on each chlorination tank. The inspections are used to monitor any signs of tank deterioration, leaking and corrosion of tanks, valves and all associated piping. In addition, an annual hydrostatic leak test is performed on all chlorine lines and unloading hoses are replaced annually.

Sierrita conducts a hazard review at least once every five years in order to identify hazards associated with: the process and chlorine; opportunities for equipment malfunctions or human errors that could cause an accidental release; the safeguards used or needed to control the hazards or prevent equipment malfunction or human error; and any steps used or needed to detect or monitor releases. The most recent hazard review was conducted in February, 2008. In addition, Sierrita periodically invites its chlorine supplier, Olin Chlor Alkali Products to conduct a Responsible Management Review. The most recent Responsible Management Review was conducted in July, 2008. Every three years, Sierrita performs a compliance audit to assess compliance with the Risk Management Program. The compliance audit team consists of personnel knowledgeable in the chlorinator process and Program requirements. The most recent compliance audit was completed in December, 2008. Only minor recommendations resulted from the most recent reviews and audit and all recommended actions will be completed by September, 2009.

THE FIVE YEAR ACCIDENT HISTORY

Sierrita has had no chlorine releases in the past five years requiring medical treatment other than minor first aid. As a safety precaution, Sierrita requires first aid for any and all types of chlorine releases, regardless of the extent of the release. There have been no reportable releases and no environmental impacts from chlorine releases.

THE EMERGENCY RESPONSE PROGRAM

Sierrita developed a detailed Chlorine Emergency Response (ER) Plan which addresses general and chemical specific emergency response procedures. Sierrita offers the ER Plan to the Pima County Sheriff's Department, Pima county Local Emergency Planning Committee (LEPC), Green Valley Fire Department, Arizona Emergency Response Commission (AZERC), and St. Mary's Hospital for local emergency response coordination.

In the event of a chlorine release, an audible alarm will sound in various facilities at the site. Evacuation routes have been developed and are posted throughout the entire Sierrita Plant site. Sierrita has several trained first responders and a Hazmat team to respond to incidents.

PLANNED CHANGES TO IMPROVE SAFETY

Sierrita conducted a Hazard Review in February 2008 and invited its chlorine supplier Olin Chlor Alkali Products to conduct a Responsible Management Review in July, 2008. Only minor recommendations were made during these reviews and all have been completed except the review and update (if needed) of detailed process and instrumentation drawings which will be completed by September, 2009. No other changes are planned to improve safety.